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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,174	04/19/2001	Yoshiki Yasuda	1247-0441P	8418

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SOHN, SEUNG C

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/837,174	YASUDA, YOSHIKI 
	Examiner Seung C. Sohn	Art Unit 2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 February 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
- 4a). Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 April 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 07, 2003 has been entered.

Specification

2. The disclosure is objected to because of the following informalities:

On page 6, line 19, "sided' after "the output section" should be changed to -- side
--. Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the output section in claims 1-11** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. ***Claims 1 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Matsuo et al. (Patent No. JP02000223738A).***

Referring to claim 1, Matsuo et al. shows in Figs. 1-2 the following elements of Applicant's claim:

- a) an input section having a plurality of light emitting elements (11, 16) and lead terminals (15) for supplying a drive current to the light emitting elements (Paragraph 0016); and
- b) an output section having a light receiving element (12) opposed to light emitting faces of the light emitting elements and lead terminals (17) for supplying a drive current to the light receiving element (Paragraph 0018 and Abstract),
 - wherein the plurality of light emitting elements (11, 16) are connected in series (Paragraph 0016).

Referring to claim 11, Matsuo et al. shows in Fig. 1 or Fig. 8 that the path (19a) of light emitted from the light emitting element (11 or 16) to the light receiving element (12) is a straight line (Paragraph 0019 or Paragraph 0035).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekiguchi (Patent No. JP 402168678A).**

Referring to claim 1, Sekiguchi shows in Fig. 1 the following elements of Applicant's claim:

- a) an input section having a plurality of light emitting elements (1A-1C) and lead terminals (TI1, TI2) for supplying a drive current to the light emitting elements (see Abstract); and
- b) an output section having a light receiving element (2) opposed to light emitting faces of the light emitting elements and lead terminals (TO1, TO2) for supplying a drive current to the light receiving element, wherein the plurality of light emitting elements are connected in series (see Abstract).

Referring to claim 11, Sekiguchi shows in Fig. 1 that the path of light emitted from the light emitting element (1A-1C) to the light receiving element (2) is a straight line.

8. *Claims 1-2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Prior Art (APA).*

Referring to claim 1, APA shows in Figs. 10 &13 the following elements of Applicant's claim:

- a) an input section having a plurality of light emitting elements (101, 111) and lead terminals (103) for supplying a drive current to the light emitting elements (Page 6, lines 12-14); and
- b) an output section having a light receiving element (102) opposed to light emitting faces of the light emitting elements and lead terminals (113) for supplying a drive current to the light receiving element, wherein the plurality of light emitting elements are connected in series (Page 6, lines 14-23).

Referring to claim 2, APA shows in Fig. 13 that the plurality of light emitting elements (101, 111) are connected in series via a plurality of headers (109).

Referring to claim 11, APA shows in Fig. 10 that the path of light emitted from the light emitting element (101) to the light receiving element (102) is a straight line.

9. *Claims 1-2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Toshio et al. (Patent No. JP 9,199,756).*

Referring to claim 1, Toshio et al. shows in Fig. 1 the following elements of Applicant's claim:

- a) an input section having a plurality of light emitting elements (2A) and lead terminals (1, 5) for supplying a drive current to the light emitting elements (Paragraph 0028); and
- b) an output section having a light receiving element (11) opposed to light emitting faces of the light emitting elements and lead terminals (10, 13) for supplying a drive current to the light receiving element, wherein the plurality of light emitting elements are connected in series (Paragraph 0032).

Referring to claim 2, Toshio et al. shows in Fig. 2 that the plurality of light emitting elements (2A) are connected in series via a plurality of headers (2c, i.e., aluminum pattern) (Paragraph 0031).

Referring to claim 5, Toshio et al. shows in Fig. 2 that at least one of the plurality of headers is a dummy header (2c).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. ***Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Matsuo et al. (Patent No. JP02000223738A).***

Referring to claim 3, Matsuo et al. shows in Fig. 1 that a header (13a) is provided with two light emitting elements (11) (Paragraph 0014). It would have been

obvious to one of ordinary skill in the art to provide a header with two light emitting elements of Matsuo et al. in the device of APA for the purpose of decreasing the number of headers.

Referring to claim 4, APA shows in Fig. 13 that structures of the two light emitting elements (101, 111) are different from each other.

12. *Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshio et al. (Patent No. JP 9,199,756) in view of Tani et al. (Patent No. US 6,080,602).*

Referring to claim 6, Tani et al. shows in Fig. 1B that the dummy header (2) is lead-cut from a lead frame (3) inside a package (10, 11) which covers and protects the semiconductor chip (Col. 1, lines 42-51). It would have been obvious to one of ordinary skill in the art to provide a header lead-cut from a lead frame inside a package of Tani et al. in the device of Toshio et al. for the purpose of separating into individual devices.

Referring to claim 7, Tani et al. shows in Fig. 3 that the dummy header (39) is lead-cut from a lead frame (34) outside a package (52) which covers and protects the semiconductor chip (Col. 4, lines 46-67). It would have been obvious to one of ordinary skill in the art to provide a header lead-cut from a lead frame outside a package of Tani et al. in the device of Toshio et al. for the purpose of protecting the semiconductor chip.

13. *Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshio et al. (Patent No. JP 9,199,756) in view of APA.*

Referring to claim 8, Toshio et al. discloses as above, but is silent the step of tie-bar cutting and lead cutting the dummy header at the same time. APA discloses the step of burr removal and tie-bar cutting are done at the same time (Page 6, lines 23-24). It would have been obvious to one of ordinary skill in the art to provide the step of tie-bar cutting and lead cutting the dummy header at the same time for the purpose of decreasing the number of manufacturing steps.

Referring to claim 9, it would have been obvious to one of ordinary skill in the art that that a lead-cut portion of the dummy header is disposed in the vicinity of a tie-bar cut portion for the purpose of cutting those portions simultaneously.

Referring to claim 10, Toshio et al. discloses as above, but is silent that a lead frame is used in which the dummy header is connected to a header of another channel adjacent to the dummy header via a connecting member. It would have been obvious to one of ordinary skill in the art to provide a lead frame used in which the dummy header is connected to a header of another channel adjacent to the dummy header via a connecting member for the purpose of mass production.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Matsumoto (Patent No. JP358168284A) discloses a multiple series photocoupler having a combination of a plurality of light emitting element.

Amano et al. (Patent No. JP401261875A) discloses a photocoupler having a plurality of light emitting elements and a photodetector.

Kasuda et al. (Patent No. US 5,285,076) discloses an optoelectronic device comprising a plurality of light emitting elements.

Matsuura (Patent No. US 6,225,686) discloses a semiconductor packaging structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (703) 308-4093. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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April 10, 2003

Kevin Pyo
KEVIN PYO
PRIMARY EXAMINER